Office of Oversight
Review of the
Occupational Medicine Program
at the
Pantex Plant

June 1999

Office of Environment, Safety and Health

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ACRONYMS

AAAHC	Accreditation Association for Ambulatory Health Care
AAO	Amarillo Area Office
DOE	Department of Energy
EMT	Emergency Medical Technician
ES&H	Environment, Safety, and Health
ISM	Integrated Safety Management

OFFICE OF OVERSIGHT REVIEW OF THE OCCUPATIONAL MEDICINE PROGRAM AT THE PANTEX PLANT

1.0 INTRODUCTION

This report documents the results of the review of the Pantex Plant occupational medicine program conducted by the Department of Energy (DOE) Office of Oversight June 21-23, 1999. The Office of Oversight performed this review in response to the findings identified in a two-phase special study of six other DOE contractor occupational medicine programs. The purpose of the special study, as with this review, was to assess the quality of DOE occupational medicine programs by identifying program attributes and deficiencies. Pantex is the first in a series of scheduled reviews that will take place within the next year. The Pantex review focused on the generic issues identified in the aforementioned special study and the efficacy of the site occupational medicine program.

To conduct this review, Oversight teamed with the Accreditation Association for Ambulatory Health Care (AAAHC), a non-profit accreditation organization for health care facilities. The organization is committed to improving the delivery of health care by performing peer-based reviews of medical facilities and the services they provide. AAAHC used nationally recognized standards for occupational medicine as a template to evaluate program performance and a licensed occupational medicine physician to conduct the review. Oversight analyzed and incorporated the AAAHC evaluation results with its own review findings to determine the overall effectiveness of the Pantex occupational medicine program.

Background

The mission of Oversight includes evaluation and analysis of DOE policies and programs related to worker protection, an important element of which is occupational medicine. Recent reviews, including the two-phase special study, indicate that DOE contractor occupational medicine programs are not accomplishing all of their expected objectives. At present, the processes for collecting and communicating worker exposure information and the implementation of quality management, performance evaluation, and continuous improvement processes are the most commonly identified weaknesses in contractor occupational medicine programs.

Report Organization

Section 2 of this report presents the results of the Oversight review of the Pantex occupational medicine program, including positive attributes, issues, and opportunities for improvement. The report includes two appendices. Appendix A provides additional information about the conduct of the review, review team composition, and the role of the AAAHC in evaluating program performance. Appendix B summarizes the results of the AAAHC survey of the Pantex occupational medicine program.

OVERVIEW OF THE PANTEX OCCUPATIONAL MEDICINE PROGRAM

History: The Pantex Ordnance Plant, established in 1942 by the U.S. Government, served as a conventional bomb manufacturing facility to supply ordnance for World War II. The 16,000 acre site northeast of Amarillo, Texas, considered surplus following the war, was sold to Texas Technical University in 1949 for a $1.00, with the understanding that if the government should need the property at some future date, it would be relinquished. In 1951, the Army Ordnance Corps and the Atomic Energy Commission chose the Pantex site as a nuclear weapons facility and reclaimed 10,000 acres from Texas Technical University. The Procter and Gamble Defense Corporation was awarded the original five-year contract but allowed Mason and Hanger to assume the contract in October 1956. By 1975, the government had consolidated all assembly and disassembly operations for nuclear weapons at the Pantex Plant.

Mission and Activities: The current Pantex Plant mission includes assembly of nuclear weapons for the nation's stockpile; disassembly of nuclear weapons retired from the stockpile; evaluation, repair, and retrofit of nuclear weapons in the nation's stockpile; demilitarization and sanitization of components from dismantled nuclear weapons; interim storage for plutonium pits from dismantled weapons; and development, fabrication, and testing of chemical explosives and explosive components for nuclear weapons. The Pantex Plant workforce of approximately 3,000 includes 89 Amarillo Area Operations (AAO) employees and 100 Albuquerque Operations Office (AL) Transportation Safeguards Division Federal employees.

Organizations: The lead program secretarial office for the Pantex Plant is the Assistant Secretary for Defense Programs (DP). Within DP, the Office of the Deputy Assistant Secretary for Military Application and Stockpile Management (DP-20) is responsible for programmatic direction. The Office of the Assistant Secretary for Environmental Management (EM) also has ongoing activities at the Pantex Plant. Both DP and EM provide direction to AL, which then directs AAO in managing the Pantex Plant's contractor, Day, Zimmerman, Mason and Hanger (DZMH). Battelle Memorial Institute, a subcontractor to DZMH, provides safety and health services for the Pantex Plant, including occupational medicine services. On October 1, 1999, DZMH assumes responsibility for the functions performed by Battelle at the time of the Oversight review.

Occupational Medicine Program: The Pantex occupational medicine program's mandate is to provide occupational health services to its contractor employees. The goal of these services is the early detection and mitigation of occupational illness and injury. The medical program staff consists of 19 professionally trained employees, including three physicians, six nurses, one advanced nurse practitioner, two psychologists, two lab/x-ray technologists, four medical record technicians, and one administrator.

The policies and protocols of the Pantex occupational medicine program are based on DOE requirements, Federal regulations, and state laws. Routine activities are defined in internal operating procedures and standing orders. Medical examinations include qualification, fitness-for-duty, suitability (Personnel Assurance Program), and voluntary/wellness examinations. Key occupational medicine activities include the treatment of injuries and illnesses, examinations/assessments, medical surveillance, emergency care, psychological evaluations, wellness, clinical/management support, site emergency response, and drug and alcohol screening.

As required by the Texas Department of Health, the Pantex Site Occupational Medical Director is responsible for the site's emergency response function and protocols. The Pantex Fire Department is staffed with 31 emergency medical technicians (EMT) and 18 EMT/paramedics. Site fire personnel maintain a 24-hour response capability and provide emergency and first-aid treatment to employees when the medical clinic is closed.

2.0 RESULTS

The following results from the Pantex occupational medicine program review are a compilation of the AAAHC survey that determined conformance to national ambulatory health care standards, and the Oversight evaluation that assessed program performance to established DOE policy. Both review processes reflect the DOE principles of integrated safety management (ISM): the identification of roles, responsibilities, and accountabilities; identification of requirements; quality management and improvement activities; and performance assessment and feedback mechanisms to promote continuous program improvement.

Positive Attributes

1. **Amarillo Area Office (AAO) and Battelle management have effectively integrated occupational health requirements into the worker protection program at Pantex.** Key elements of the occupational medical program are clearly identified in the standards/requirements identification documents; ISM action plans; some performance assessment, ISM validation, and operations activities; and budget/strategic planning exercises. Medical program expectations are well defined and understood by DOE and contractor environment, safety, and health (ES&H) managers. Expected deliverables associated with the occupational medicine program are routinely monitored and reported to DOE and contractor senior management. Personnel interfaces have been established between the occupational medicine program and other ES&H organizations such as emergency planning and response, the injury/illness committee, and the ergonomic team. Programmatic deficiencies and weaknesses identified through either self-assessments or external assessments are tracked to completion and closure.

2. **The AAAHC awarded the Pantex occupational medicine program with a three-year term of accreditation and found it to be in compliance with all of the Association's applicable standards.** The AAAHC survey team used the Association's core standards pertaining to ambulatory health care programs and seven adjunct standards pertaining specifically to occupational medicine to evaluate the Pantex medical program. AAAHC judged Pantex to be in "substantial compliance," which is the highest of the three possible ratings awarded by the association. The surveyors were complimentary of the obvious efforts on behalf of the Pantex medical staff in understanding the philosophy of external accreditation and applying AAAHC standards in the workplace. Clinic personnel were also commended for their diligence in making the quality management and improvement program an integrated process within the occupational medicine program. In addition, AAAHC considered the self-assessment activities and matrix used by the Pantex medical staff to prepare for the accreditation survey to be highly effective, and they recommended its use by other DOE contractor occupational medicine programs seeking accreditation.

3. **The Pantex Plant emergency response program is well supported by AAO management and is effectively integrated with the site fire protection and medical departments and community medical resources.** The Pantex fire protection service is a highly trained, well-equipped response organization that supports the critical mission of the site and serves as a valuable resource to the community when necessary. In close coordination with the site medical department, the emergency medical technician (EMT)/paramedic staff provides full-time, 24-hour emergency medical response. Frequent training, drills, and exercises are a central component of the emergency management program.

A cooperative agreement between the Veterans Administration Hospital and other local medical providers has provided for a community-based resource that can assist the Pantex Plant in the event of a criticality or mass-casualty incident.

Issues

During the review process, Oversight may identify issues that require formal tracking in accordance with the DOE Implementation Plan for Defense Nuclear Facilities Safety Board Recommendation 98-1, which addressed the formal follow-up of independent oversight findings. However, since no issues were identified during the review, no corrective action plan is required from AAO or Pantex.

Opportunities for Improvement

The Oversight review identified several opportunities for improvement. These potential enhancements are not intended to be prescriptive. Rather, they are suggested courses of action to be evaluated by the responsible DOE and contractor line managers who may choose to prioritize and modify them as appropriate in accordance with site-specific ES&H objectives.

1. **The Pantex personnel responsible for site data management systems should analyze and establish methods for integrating medical department information into existing or planned database systems**. The analysis should consider the benefits of linking specific employee and ES&H data such as training; industrial hygiene, health physics, and safety monitoring/inspections; human resource or personnel records; and medical surveillance activities. DOE contractors have found that linking employee and ES&H data in an accessible database can be extremely helpful in promoting and maintaining an effective worker protection program. Providing the medical evaluator with the opportunity to access complete worker information "on line," including such data as job status, work restrictions, job task and hazard assessment information, exposure measurements, use of personal protective equipment, and scheduling and training requirements, significantly contributes to the effectiveness of the medical evaluation. The addition of an automated tracking system that includes examination and certification results can improve the timeliness of medical follow-up, help to manage lost-time/restricted duty cases, and allow for the trending and reporting of statistical information.

2. **Enhanced training opportunities should be provided for managers and supervisors concerning their role in worker protection management as it applies to hazard identification, job task analysis, and health effects.** References to medical surveillance requirements and methods for obtaining assistance from industrial hygiene and medical personnel should be included in site procedures. Managers should be trained to understand that the information they provide concerning workplace hazards, potential health effects, and individual worker abilities can markedly impact worker safety and health. This input is essential in helping to determine the appropriateness of health and medical surveillance activities. Core training for new managers and supervisors should include worker protection management.

3. **Facility and program-specific reviews and performance assessments should incorporate the requirements detailed in DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees***. Routine safety and health audits should focus on the effectiveness and thoroughness of the site's hazard identification program, health surveillance and monitoring activities, and the medical surveillance program.

Conclusions

The Pantex occupational medicine program is considered to be effective and meets DOE requirements for worker protection management and ISM. The AAAHC determined that the medical program is in substantial compliance with all of the association's core and adjunct standards and awarded it a three-year term of accreditation. AAO and contractor safety and health management appear to be strongly committed to worker health and safety, and the occupational medicine program is a visible member of the site worker protection team.

Although no issues were identified, several opportunities for improvement were identified that could further strengthen the medical program's effectiveness and quality. The information that managers and supervisors provide to medical personnel concerning job task and hazard analysis information is a vital part of the worker protection program. Improving the communication of this information and promoting the worker protection team concept could be facilitated through clearer instructions, more convenient reporting, and manager/supervisor training.

Facility-wide performance assessments and feedback mechanisms should include medical program requirements. Internal audits and reviews should encompass employee exposure monitoring and participation in medical surveillance activities. Performance assessments/audits should also assess the role of the manager/supervisor in tracking, reporting hazards, and communicating worker exposures to medical personnel.

Finally, investing resources to upgrade the medical clinic's structural amenities and internal automation capabilities could improve medical program services. The medical facility is physically too small to efficiently accommodate the patient load and necessary equipment. Patient privacy is maintained, but work activities are directly impacted by space limitations. The additional computerization of employee medical and exposure data and job task information would increase staff efficiency and facilitate the tracking and trending of medical-related information.

APPENDIX A

REVIEW PROCESS AND TEAM COMPOSITION

Approach and Methodology

The review of the Pantex occupational medicine program was conducted according to Oversight protocols and procedures, including the validation of data throughout all stages of the process. In reviewing occupational medicine programs, Oversight supplemented its internal capabilities by teaming with licensed medical physicians who specialize in occupational medicine. To obtain such expertise, Oversight established an agreement with the AAAHC to assist in performing these reviews.

The AAAHC is a non-profit organization that performs surveys of ambulatory medical care facilities and accredits programs that have demonstrated compliance with an established set of nationally recognized standards. As part of the teaming agreement, the AAAHC supplied qualified surveyors to supplement the Oversight team in evaluating the Pantex Plant occupational medicine program.

AAAHC participation in this review served two purposes:

- The AAAHC performed an independent consultative survey of the Pantex occupational medicine program using nationally recognized procedures and standards. As part of this effort, Pantex medical personnel completed a self-assessment (a pre-review survey) that measured their program performance against AAAHC standards. The pre-survey also provided the medical personnel and their management with AAAHC suggestions for improvement, which helped identify what efforts are needed if full accreditation is sought.

- The positive attributes, weaknesses, and insights from the AAAHC survey were factored into the information gathered by the Oversight team during interviews, document reviews, and tours.

The Oversight and AAAHC approach was an effective and efficient method for obtaining the independent perspectives of qualified and experienced medical professionals as well as evaluating program performance against nationally recognized standards. The approach also allowed for the review of DOE policy and its implementation by Pantex. Elements of quality management and continuous improvement were also incorporated in the approach due to parallel AAAHC and DOE requirements.

The review employed standard Oversight methods for collecting data, including:

- Reviews of policies, procedures, protocols, quality plans, organizational charts, quality records, medical records, equipment calibration records, meeting minutes, budget documents, educational materials, and professional staff credentials
- Interviews with AAO ES&H personnel and contractor mangers
- Observation of medical department work areas and activities
- Validation of the AAAHC pre-review survey questionnaire.

Consistent with DOE policy and requirements, a comprehensive occupational medicine program performs several interrelated functions, as delineated in Figure A-1. The Oversight review team focused on the Pantex occupational medicine program's ability to accomplish these listed functions.

Standards for the Review

This independent Oversight review focused on the effectiveness of Pantex in establishing and implementing an effective occupational medicine program, as defined by applicable DOE orders and policies. The DOE orders that specifically define requirements for a DOE contractor occupational medicine program include:

- DOE Order 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*, which establishes a framework for the safety and health management necessary to support a comprehensive medical services program

- DOE Policy 450.4, "Safety Management System," which defines a comprehensive and coordinated program of ES&H expectations and activities that is commonly referred to as ISM. All site ES&H programs, including occupational medicine programs, are to be implemented within this framework.

In reviewing occupational medicine programs across the DOE complex, Oversight tasked the AAAHC to identify medical program elements that are essential for high-quality patient care and help to measure program effectiveness against nationally recognized standards. Although not specific DOE requirements, these elements and other AAAHC standards generally reflect the philosophy detailed in DOE safety management policies. The AAAHC standards emphasize the quality improvement process, which is a central theme of ISM. The DOE Office of Occupational Medicine supports the accreditation process and is in the process of modifying DOE Order 440.1A to be more consistent with accreditation provisions and guidelines.

Occupational Medicine Program Functions

Consistent with DOE policy and requirements, a comprehensive occupational medicine program performs several interrelated functions:

- **Clinical services.** Medical staff perform various routine medical procedures (e.g., physical examinations, laboratory testing) to identify and treat occupational illness or injuries, facilitate recovery and safe return to work, and refer patients for further treatment as indicated. In this regard, the occupational medicine program serves as an onsite clinic and provides timely and convenient access to medical services.

- **Assessment of worker fitness for duty.** Health evaluations are conducted to provide initial and continuing assessment of employee fitness for duty through the following examination categories: pre-placement, periodic (qualification certification) examinations, return to work, job transfer, and termination.

- **Medical surveillance.** DOE sites and the work performed may involve the use of hazardous materials and conditions that may affect worker health. As a result, DOE sites need to identify those job categories where workers may be exposed to physical, chemical, or biological hazards. Once the job categories are identified, a thorough process must be implemented to address essential health monitoring and appropriate medical follow-up. The process must be coordinated with other site ES&H organizations so the communication of complete worker exposure and history data to the occupational physician can occur. Worker exposure data and related information must be comprehensive, accessible, and in a useful format so it can be easily interpreted. The occupational physician uses the data to periodically assess the worker's health status, the adequacy of current personal protective equipment and health surveillance activities, identify health trends, and accommodate requests for information.

- **Support for efforts to monitor and control exposure to radiation and hazardous materials.** DOE must monitor and control radiation exposure in accordance with a radiation protection plan. Such efforts often require various methods for measuring radiation exposure (e.g., whole body counts) that may be performed on a routine basis or to determine the extent of exposure or appropriate medical treatment after an incident. Similarly, DOE must comply with various Federal and state regulations related to worker safety and hazardous materials (e.g., Occupational Safety and Health Administration requirements for protection against exposure to hazardous substances). The occupational medicine program must coordinate with management to ensure that hazards are identified and that appropriate measures to mitigate hazards are in place.

- **Support for emergency management preparedness and response.** DOE must be prepared to handle emergencies that may confront the workforce. Occupational medicine programs need to be able to provide support during an emergency situation; for example, by providing treatment to injured workers, coordinating support with local hospitals, ensuring that information about hazardous materials is readily available to medical personnel who treat exposure victims, and providing recommendations for protecting the public.

- **Information management.** To perform the functions noted above, DOE must maintain health information about hazardous materials and employees potentially exposed to those hazards. Many of the materials used at DOE facilities and laboratories, such as plutonium and beryllium, pose significant health risks and are not commonly encountered in general industry. Thus, they may be unfamiliar to community health care providers in the event of an accidental exposure. Occupational medicine program personnel must also be involved in keeping track of the types of hazardous materials at the sites and their health effects, documenting worker exposures, recommending treatments, and informing management about the effectiveness of safety and health programs.

Figure A-1. Functions of a Comprehensive Occupational Medicine Program

Team Composition

The team membership, composition, and responsibilities are as follows:

Office of Oversight Management Team

Deputy Assistant Secretary for Oversight

S. David Stadler, Ph.D.

Associate Deputy Assistant Secretary

Raymond Hardwick- Operations
Neal Goldenberg - Technical Matters

Director, Office of ES&H Evaluations

Patricia Worthington, Acting Director
Tom Staker, Acting Deputy Director

Review Team*

Marvin Mielke, RN, MSN, Team Leader
Robert Freeman, Central Region Team Leader
Dennis Schultz M.D., AAAHC Chairperson
Marion Walton, RN, MSN, AAAHC Surveyor

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APPENDIX B

ACCREDITATION ASSOCIATION FOR AMBULATORY HEALTH CARE, INC.
SURVEY COMMENTS FOR THE
PANTEX OCCUPATIONAL MEDICINE PROGRAM

Introduction

As part of the normal survey process, the Accreditation Association for Ambulatory Health Care (AAAHC) provides detailed evaluation results. The AAAHC results include a rating (i.e., substantially compliant, partially compliant, or non-compliant) for each of the applicable standards. The standards published in the "Accreditation Association Handbook for Ambulatory Health Care" describe organizational characteristics that AAAHC believes to be essential for high-quality patient care. For those standards that are partially compliant or non-compliant, the surveyor provides written comments about the observed weakness.

The AAAHC report on the Pantex occupational medicine program consisted of approximately 100 pages of completed evaluation forms, which included supporting comments. The AAAHC also identified a set of potential improvements that would strengthen the medical program and correct weaknesses noted during the survey. The Office of Oversight developed the following summary of the AAAHC comments. The actual survey results will be provided to Pantex Medical Director for review and comment.

AAAHC Assessment

The occupational medicine program was in substantial compliance in 15 of 15 standards determined to be applicable to the AAAHC accreditation process. The areas of substantial compliance included:

- Rights of patients
- Governance
- Administration
- Quality of care provided
- Quality management and improvement
- Clinical records
- Professional improvement
- Facilities and environment
- Immediate/urgent care services
- Pharmaceutical services
- Pathology and medical laboratory services
- Diagnostic imaging services
- Occupational health services
- Other professional and technical services
- Teaching and publication activities.

A summary of comments on specific standards is provided below.

Rights of Patients

A patient/employee bill of rights is clearly posted in the clinic area, as is the American Association of Occupational Health Nurses code of ethics.

The company provides for suggestion cards, patient surveys and a company-wide grievance program.

Pantex should consider the following suggestions to further improve the existing program:

- Developing a medical department pamphlet or handout to summarize orientation information
- Posting the American College of Occupational and Environmental Medicine (ACOEM) code of ethics.

Governance

Overall, plant communication is sound, with the exception of one labor organization, which voiced concerns over the DOE fitness-for-duty program (Personnel Assurance Program) and general functions of the medical clinic.

There is strong leadership within the medical department as well as support within the organization as a whole.

The organization maintains an extremely well equipped, trained, and skilled paramedic/fire fighter service. The service is well integrated into the medical department and the community, including both after-hours and emergency services. The medical department is affiliated with the Veterans Administration Hospital, which is equipped for contamination emergencies.

All elements of the risk management program are in place and monitored by the Medical Director.

Pantex should consider creating a unified medical department risk management procedure or document.

The rule for occupational exposure to blood-borne pathogens (29 CFR Part 1910.1030) is not completely reflected in the two procedures currently being used to implement the Pantex blood-borne pathogens policy. Minor elements of the rule should be included in the program, including biohazard labeling for refrigerators, personal protective equipment labeling, and non-standard definition of infectious materials. Pantex should consider reviewing 29 CFR 1910.1030 and updating its policy/procedure.

No unsafe work practices were identified during the survey.

The organization has used peer review on annual evaluations based on informal chart audits and an extensive counter signing procedure. Consideration is being given to a formal chart audit program peer review program for occupational health nurses.

Consideration should be given to a requirement for reappointment to provide evidence of present compliance with peer evaluation, current state license, Drug Enforcement Administration (DEA) certificate, and other such information.

Administration

The medical department operates on a budget; no fees are collected. The department is responsible for the development and control of a medical program budget.

Overall administrative procedures were sound. Minor issues were identified, including: blood-borne pathogen program needs some updates, respiratory medical assessment procedures need updating, policy on retention of old outdated procedures and standards should be considered.

Quality of Care

The services provided, including exams, injury care, oversight of emergency medical services, and emergency preparedness, were very good. Common areas of concern for DOE occupational medical programs were not evident at Pantex. Management support for the medical department, quality of the staff, and ability to work in coordination with other departments were important factors in establishing effective services.

Quality Management and Improvement

The peer review process includes chart audits and is well integrated into the beliefs and activities of the organization.

Using the results of peer review as a basis for granting continued clinical privileges should be considered.

The effectiveness of corrective measures should be determined after a quality management study. If the problem remains, alternative corrective actions should be taken as needed to resolve the problem.

Quality management studies are documented at the expected level for accreditation compliance. Documentation of the expected level of three to five studies per year should not be difficult.

Risk is managed through several organizational or corporate activities. However, all pertinent elements of risk management are addressed. The medical director monitors this activity.

Clinical Records

Overall, the charting and clinical record system was sound. The only significant issue was inconsistent recording of allergies on the problem list. Allergies were listed elsewhere, but not in a consistent location. Information was filed properly in the charts that were reviewed. Some inconsistency with respect to the method of recording information was noted (e.g., some used a standard method of charting, while others did not). Numerous old “sticky” notes were found in charts, against policy; these are being removed.

Professional Improvement

The organization has agreements with local medical libraries at the Texas Technical University. They have Internet access to regulatory and technical information. The staff maintains professional competence through a variety of study methods.

Facilities and Equipment

The nurses' assessment area does not ensure privacy. Clinical partitions did not reach the ceiling. Conversations could be heard from one cubicle to the next. A room was available if privacy was needed.

Designing a more convenient and confidential patient assessment area would be beneficial. All examination rooms, dressing rooms, and reception areas should be constructed in a manner that ensures privacy during interviews, examinations, treatment, and consultation.

Space is limited, and part of the clinic is in a security area. Some halls are very narrow. The medical staff has done an admirable job in adapting to minimize the effect of the small facility. However, the space allocated for a particular function should be adequate for the activities performed therein.

Emergency Services

Pantex has a full-time, fully equipped, 51-member fire department, emergency medical, and paramedic service. This service responds to 911 calls within a ten-mile radius when needed.

Immediate/Urgent Care Services

Urgent care is limited to work-related injuries or first visits for non-serious, non-work related maladies.

Pharmacy Services

The medical department has a limited number of medications to dispense. They are locked and under a physician's supervision. The double-lock system in place for controlled substances conforms to state standards.

Pathology and Laboratory Services

The organization performs only dipstick urine and other waived testing.

Review of blood alcohol testing training to ensure consistency with manufacturers' recommendations should be considered.

The breath alcohol tester in the fire station may not be supervised by medical clinic personnel.

Diagnostic Imaging

A random audit of several charts indicated that follow-up of serial x-ray films was completed. Films/records are stored permanently.

Site management was advised to place a radiation warning sign outside the x-ray room and to consistently identify x-ray printer cards using ink instead of pencil.

Gonad shielding should be used to protect from radiation scatter. Reliance on the collimator is not sufficient.

Diagnostic x-ray policies should address the safety aspects of the imaging services, including proper shielding where radiation, magnetic and other potentially hazardous energy sources are used.

Occupational Health Services

The organization provides very sound occupational health services. Medical services are integrated with safety and health. Charts contain exposure data and information on job demands. Management appreciates and supports medical staff and services. The staff is knowledgeable about work demands and exposures.

The use of forms detailing job demands and exposures to inform providers about specifics of individual jobs is a good practice. However, the documentation of this data should be improved.